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APPLICATIONPlease type a plus sign (+) inside this box → ☐

PTO/SB/01 (12-97)

Approved for use through 9/30/00. OMB 0651-0032  
Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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**DECLARATION FOR UTILITY OR  
DESIGN  
PATENT APPLICATION  
(37 CFR 1.63)**☐ Declaration  
Submitted  
with Initial  
Filing

OR

☒ Declaration  
Submitted after Initial  
Filing (surcharge  
(37 CFR 1.16 (e))  
required)

Attorney Docket Number MIT7203/7465 CIP

First Named Inventor Edwards, David A.

**COMPLETE IF KNOWN**

Application Number 09 / 194,068

Filing Date

Group Art Unit

Examiner Name

As a below named inventor, I hereby declare that:

My residence, post office address, and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

Aerodynamically Light Particles for Pulmonary Drug Delivery

the specification of which

(Title of the invention)

☐ Is attached hereto  
OR☒ was filed on (MM/DD/YYYY) 05/23/1997 as United States Application Number or PCT International

Application Number PCT/US97/08895 and was amended on (MM/DD/YYYY) (if applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment specifically referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56.

I hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or 365(b) of any foreign application(s) for patent or inventor's certificate, or 365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or of any PCT international application having a filing date before that of the application on which priority is claimed.

| Prior Foreign Application<br>Number(s) | Country | Foreign Filing Date<br>(MM/DD/YYYY) | Priority<br>Not Claimed  | Certified Copy Attached?   |   |
|--|---------|-------------------------------------|--|--|---|
|  |         |                                     |  | YES  | NO  |
| PCT/US97/08895                         | PCT     | 05/23/1997                          | <input type="checkbox"/><br><input type="checkbox"/><br><input type="checkbox"/><br><input type="checkbox"/> | <input type="checkbox"/><br><input type="checkbox"/><br><input type="checkbox"/><br><input type="checkbox"/> | <input checked="" type="checkbox"/><br><input type="checkbox"/><br><input type="checkbox"/><br><input type="checkbox"/> |

☐ Additional foreign application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto.

I hereby claim the benefit under 35 U.S.C. 119(e) of any United States provisional application(s) listed below.

| Application Number(s) | Filing Date (MM/DD/YYYY) | <input type="checkbox"/> Additional provisional application<br>numbers are listed on a<br>supplemental priority data sheet<br>PTO/SB/02B attached hereto. |
|-----------------------|--------------------------|---|
|                       |                          |   |

[Page 1 of 2]

Burden Hour Statement: This form is estimated to take 0.4 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

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Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE  
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.**DECLARATION — Utility or Design Patent Application**

I hereby claim the benefit under 35 U.S.C. 120 of any United States application(s), or 365(c) of any PCT International application designating the United States of America, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of 35 U.S.C. 112, I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application.

| U.S. Parent Application or PCT Parent Number | Parent Filing Date (MM/DD/YYYY) | Parent Patent Number (if applicable) |
|--|---------------------------------|--------------------------------------|
| 08/655,570<br>08/739,308                     | 05/24/1996<br>10/29/1996        |                                      |

☐ Additional U.S. or PCT International application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto.

As a named inventor, I hereby appoint the following registered practitioner(s) to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith:

☐ Customer Number 

OR


☐ Registered practitioner(s) name/registration number listed belowPlace Customer  
Number Bar Code  
Label here

| Name             | Registration Number | Name          | Registration Number |
|------------------|---------------------|---------------|---------------------|
| Patrea L. Pabst  | 31,284              | Kevin W. King | 42,737              |
| Colleen A. Beard | 38,824              |               |                     |
| Robert A. Hodges | 41,074              |               |                     |

☐ Additional registered practitioner(s) named on supplemental Registered Practitioner Information sheet PTO/SB/02C attached hereto.Direct all correspondence to: ☐ Customer Number or Bar Code Label  OR ☒ Correspondence address below

|         |   |           |                |     |                |
|---------|---|-----------|----------------|-----|----------------|
| Name    | Patrea L. Pabst                                     |           |                |     |                |
| Address | Arnall Golden & Gregory<br>2800 One Atlantic Center |           |                |     |                |
| Address | 1201 West Peachtree Street                          |           |                |     |                |
| City    | Atlanta   | State     | GA             | ZIP | 30309-3450     |
| Country | United States                                       | Telephone | (404) 873-8794 | Fax | (404) 873-8795 |

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

|   |   |   |    |             |        |
|---|---|---|----|-------------|--------|
| Name of Sole or First Inventor:   |   | <input type="checkbox"/> A petition has been filed for this unsigned inventor |    |             |        |
| Given Name (first and middle (if any))  |   | Family Name or Surname  |    |             |        |
| David A.  |   | Edwards   |    |             |        |
| Inventor's Signature  |  |   |    | Date        | 3/1/99 |
| Residence: City   | Boston  | State   | MA | Country     | US     |
|   |   |   |    | Citizenship | US     |
| Post Office Address   | 452 Beacon Street, Unit 6   |   |    |             |        |
| Post Office Address   |   |   |    |             |        |
| City  | Boston  | State   | MA | ZIP         | 02115  |
|   |   |   |    | Country     | US     |
| <input checked="" type="checkbox"/> Additional inventors are being named on the 2 supplemental Additional Inventor(s) sheet(s) PTO/SB/02A attached hereto |   |   |    |             |        |

Please type a plus sign (+) inside this box → ☐

PTO/SB/02A (3-97)

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## DECLARATION

ADDITIONAL INVENTOR(S)  
Supplemental Sheet  
Page 1 of 2

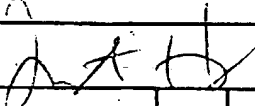
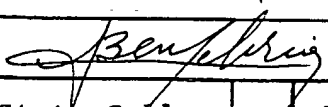
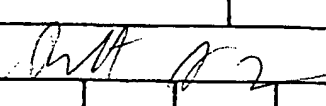
|  |                               |   |    |         |       |             |         |
|--|-------------------------------|---|----|---------|-------|-------------|---------|
| Name of Additional Joint Inventor, if any: |                               | <input type="checkbox"/> A petition has been filed for this unsigned inventor |    |         |       |             |         |
| Given Name (first and middle (if any))     |                               | Family Name or Surname  |    |         |       |             |         |
| Giovannia                                  |                               | Caponetti   |    |         |       |             |         |
| Inventor's Signature                       | <i>Giovanna Caponetti</i>     |   |    |         |       | Date        | 3/9/99  |
| Residence: City                            | Piacenza                      | State   |    | Country | IT    | Citizenship | IT      |
| Post Office Address                        | Via Genova 33                 |   |    |         |       |             |         |
| Post Office Address                        |                               |   |    |         |       |             |         |
| City                                       | Piacenza                      | State   |    | ZIP     | 29100 | Country     | IT      |
| Name of Additional Joint Inventor, if any: |                               | <input type="checkbox"/> A petition has been filed for this unsigned inventor |    |         |       |             |         |
| Given Name (first and middle (if any))     |                               | Family Name or Surname  |    |         |       |             |         |
| Jeffrey S.                                 |                               | Hrkach  |    |         |       |             |         |
| Inventor's Signature                       | <i>Jeffrey S. Hrkach</i>      |   |    |         |       | Date        | 2/26/99 |
| Residence: City                            | Somerville                    | State   | MA | Country | US    | Citizenship | US      |
| Post Office Address                        | 65 Willow Avenue, Apartment 1 |   |    |         |       |             |         |
| Post Office Address                        |                               |   |    |         |       |             |         |
| City                                       | Somerville                    | State   | MA | ZIP     | 02144 | Country     | US      |
| Name of Additional Joint Inventor, if any: |                               | <input type="checkbox"/> A petition has been filed for this unsigned inventor |    |         |       |             |         |
| Given Name (first and middle (if any))     |                               | Family Name or Surname  |    |         |       |             |         |
| Noah                                       |                               | Lotan   |    |         |       |             |         |
| Inventor's Signature                       | <i>Noah Lotan</i>             |   |    |         |       | Date        | 2/4/99  |
| Residence: City                            | Haifa                         | State   |    | Country | IL    | Citizenship | IL      |
| Post Office Address                        | 27 Shimkin Street             |   |    |         |       |             |         |
| Post Office Address                        |                               |   |    |         |       |             |         |
| City                                       | Haifa                         | State   |    | ZIP     | 34750 | Country     | IL      |

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## DECLARATION

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Supplemental Sheet  
Page 2 of 2

|  |   |   |    |                        |       |             |         |
|--|---|---|----|------------------------|-------|-------------|---------|
| Name of Additional Joint Inventor, if any: |   | <input type="checkbox"/> A petition has been filed for this unsigned inventor |    |                        |       |             |         |
| Given Name (first and middle [if any])     |   |   |    | Family Name or Surname |       |             |         |
| Justin                                     |   |   |    | Hanes                  |       |             |         |
| Inventor's Signature                       |    |   |    |                        |       | Date        | 1/20/99 |
| Residence: City                            | Baltimore   | State   | MD | Country                | US    | Citizenship | US      |
| Post Office Address                        | 223 Brandon Road  |   |    |                        |       |             |         |
| Post Office Address                        |   |   |    |                        |       |             |         |
| City                                       | Baltimore   | State   | MD | ZIP                    | 21212 | Country     | US      |
| Name of Additional Joint Inventor, if any: |   | <input type="checkbox"/> A petition has been filed for this unsigned inventor |    |                        |       |             |         |
| Given Name (first and middle [if any])     |   |   |    | Family Name or Surname |       |             |         |
| Abdell Aziz                                |   |   |    | Ben-Jebria             |       |             |         |
| Inventor's Signature                       |  |   |    |                        |       | Date        | 1/28/99 |
| Residence: City                            | State College   | State   | PA | Country                | US    | Citizenship | US      |
| Post Office Address                        | 804 Stratford Drive   |   |    |                        |       |             |         |
| Post Office Address                        |   |   |    |                        |       |             |         |
| City                                       | State College   | State   | PA | ZIP                    | 16801 | Country     | US      |
| Name of Additional Joint Inventor, if any: |   | <input type="checkbox"/> A petition has been filed for this unsigned inventor |    |                        |       |             |         |
| Given Name (first and middle [if any])     |   |   |    | Family Name or Surname |       |             |         |
| Robert S.                                  |   |   |    | Langer                 |       |             |         |
| Inventor's Signature                       |  |   |    |                        |       | Date        | 2/4/99  |
| Residence: City                            | Newton  | State   | MA | Country                | US    | Citizenship | US      |
| Post Office Address                        | 77 Lombard Street   |   |    |                        |       |             |         |
| Post Office Address                        |   |   |    |                        |       |             |         |
| City                                       | Newton  | State   | MA | ZIP                    | 02158 | Country     | US      |

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#24  
m.m.  
7/25/02

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: David A. Edwards, Giovanni Caponetti, Jeffrey S. Hrkach, Noah Lotan, Justin Hanes, Abdell Aziz Ben-Jebria and Robert S. Langer

Serial No.: 09/194,068

Group Art Unit: 1614

Filed: April 8, 1999

**COPY FOR CONTINUING  
APPLICATION**

Title: AERODYNAMICALLY LIGHT PARTICLES FOR PULMONARY DRUG  
DELIVERY

|   |                      |
|---|----------------------|
| CERTIFICATE OF MAILING  |                      |
| I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as First Class Mail in an envelope addressed to Assistant Commissioner for Patents, Washington, D.C. 20231 |                      |
| on 4-20-00  | <i>Jean A. White</i> |
| Date  | Signature            |
| Jean A. White   |                      |
| Typed or printed name of person signing certificate   |                      |

REVOCATION OF POWERS OF ATTORNEY  
AND APPOINTMENT OF NEW ATTORNEYS AND/OR AGENTS

Box M Fee  
Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

The Penn State Research Foundation, a Corporation duly organized under the laws of the Commonwealth of Pennsylvania, is an assignee together with Massachusetts Institute of Technology, of the entire right, title and interest in the above-identified application. The Penn State Research Foundation hereby appoints the attorneys and/or agents associated with:

Hamilton, Brook, Smith & Reynolds, P.C.

2 Militia Drive

Lexington, Massachusetts 02421-4799

Customer No. 21005

also Anabela C. Taylor, Registration No. 38,999 of Hamilton, Brook, Smith & Reynolds, P.C., to prosecute the above-identified application and any divisions or continuations thereof and to conduct all business in the United States Patent and Trademark Office. All previously granted Powers of Attorney are hereby revoked.

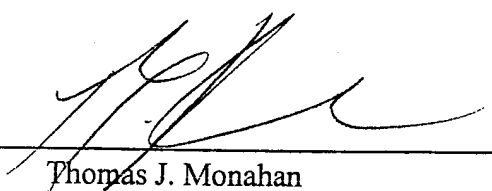
Certification under 37 C.F.R. §3.73(b) is submitted herewith.

All correspondence should be sent to Carolyn S. Elmore, Hamilton, Brook, Smith & Reynolds, P.C., Two Militia Drive, Lexington, Massachusetts 02421-4799. Please direct all telephone calls to Carolyn S. Elmore at (781) 861-6240, and all facsimile communications to (781) 861-9540.

Respectfully submitted,

The Penn State Research Foundation

By

  
Thomas J. Monahan

Title Director, Intellectual Property Office

Date 01/04/00

**CERTIFICATE UNDER 37 C.F.R. § 3.73**

Applicants: David A. Edwards, Giovanni Caponetti, Jeffrey S. Hrkach, Noah Lotan, Justin Hanes, Abdell Aziz Ben-Jebria  
and Robert S. Langer

Application No.: 09/194,068 Filed: April 8, 1999

For: AERODYNAMICALLY LIGHT PARTICLES FOR PULMONARY DRUG DELIVERY

The Penn State Research Foundation, a

Corporation

(Name of Assignee)

(Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

certifies that it is

- A. ☐ the assignee of the entire right, title and interest in the patent application identified above.
- B. ☒ an assignee together with Massachusetts Institute of Technology of the entire right, title and interest in the patent application identified above. A separate Certificate under 37 CFR § 3.73(b) is attached.

The right, title and interest of the above-named assignee in the patent application identified above is established by virtue of:

- A. ☒ An assignment from inventors David Edwards and Abdell Aziz Ben-Jebria, of the patent application identified above. The assignment was recorded in the Patent and Trademark Office at Reel 9925, Frame 0098 - 0102, or for which a copy thereof is attached.

OR

- B. ☐ A chain of title from the inventor(s) of the patent application identified above, to the current assignee as shown below:

1. From: \_\_\_\_\_ To: \_\_\_\_\_  
 The document was recorded in the Patent and Trademark Office at  
 Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.
2. From: \_\_\_\_\_ To: \_\_\_\_\_  
 The document was recorded in the Patent and Trademark Office at  
 Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.
3. From: \_\_\_\_\_ To: \_\_\_\_\_  
 The document was recorded in the Patent and Trademark Office at  
 Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are attached.

☐ Copies of assignments or other documents in the chain of title are attached.

The undersigned (whose title is supplied below) is empowered to act on behalf of the assignee.

I hereby declare that all statements made herein of my own knowledge are true, and that all statements made on information and belief are believed to be true; and further, that these statements are made with the knowledge that willful false statements and the like so made, are punishable by fine or imprisonment, or both, under Section 1001, Title 18 of the United States code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Date: \_\_\_\_\_

Name: Thomas J. Monahan

Title: Director, Intellectual Property Office

Signature: 01/04/00